

19.15 Chemical and Volume Control System**19.15.1 System Description**

See subsection 9.3.6.2.

19.15.2 System Operation

See subsection 9.3.6.4.

19.15.3 Performance during Accident Conditions

See subsection 9.3.6.4.5.

19.15.4 Initiating Event Review

The design certification of the AP1000 included consideration by the NRC of the topic referred to in this section.

19.15.5 System Logic Models**19.15.5.1 Assumptions and Boundary Conditions**

The following assumptions are used for the chemical and volume control system PRA model:

- a. - i. The design certification of the AP1000 included consideration by the NRC of the topic referred to in this section.
- j. Either one of the two makeup pumps is sufficient to deliver borated water to the reactor coolant system. To simplify the PRA model, it is assumed that one makeup pump is always the operating pump and the other makeup pump is always the standby pump.
- k. - q. The design certification of the AP1000 included consideration by the NRC of the topic referred to in this section.

19.15.5.2 Fault Tree Models

The design certification of the AP1000 included consideration by the NRC of the topic referred to in this section.

19.15.5.3 Human Interactions

The design certification of the AP1000 included consideration by the NRC of the topic referred to in this section.

19.15.5.4 Common Cause Failures

The design certification of the AP1000 included consideration by the NRC of the topic referred to in this section.

<p>TABLES 19.15-1 THROUGH 19.15-9 NOT USED. FIGURE 19.15-1 NOT USED.</p>
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19.16 Containment Hydrogen Control System

See subsection 6.2.4.

19.17 Normal Residual Heat Removal System

See subsection 5.4.7.

19.18 Component Cooling Water System

See subsection 9.2.2.

19.19 Service Water System

See subsection 9.2.1.

19.20 Central Chilled Water System

See subsection 9.2.7.

19.21 ac Power System

See subsection 8.3.1.

19.22 Class 1E dc & UPS System

See subsection 8.3.2.1.1.

19.23 Non-Class 1E dc & UPS System

See subsection 8.3.2.1.2.

19.24 Containment Isolation

See subsection 6.2.3.

19.25 Compressed and Instrument Air System

See subsection 9.3.1.

19.26 Protection and Safety Monitoring System

See subsection 7.1.2.

19.27 Diverse Actuation System

See subsection 7.7.1.11.

19.28 Plant Control System

See subsection 7.1.3.

19.29 Common Cause Analysis

The design certification of the AP1000 included consideration by the NRC of the topic referred to in this section.

19.30 Human Reliability Analysis

The design certification of the AP1000 included consideration by the NRC of the topic referred to in this section.

19.31 Other Event Tree Node Probabilities

The design certification of the AP1000 included consideration by the NRC of the topic referred to in this section.

19.32 Data Analysis and Master Data Bank

The design certification of the AP1000 included consideration by the NRC of the topic referred to in this section.

19.33 Fault Tree and Core Damage Quantification

The design certification of the AP1000 included consideration by the NRC of the topic referred to in this section.